

Inter (Part-II) 2021

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| Physics | Group-II | PAPER: II |
| Time: 20 Minutes | (OBJECTIVE TYPE) | Marks: 17 |

Note: Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with Marker or Pen ink in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.

- 1-1-** Output wave form of sweep or time base generator is:
 - (a) Saw tooth wave ✓
 - (b) Digital wave
 - (c) Sinusoidal wave
 - (d) Square wave
- 2-** S.I unit of impedance is:
 - (a) Henry
 - (b) Hertz
 - (c) Ampere
 - (d) Ohm ✓
- 3-** The rest mass energy of an electron positron pair is:
 - (a) 0.51 Mev
 - (b) 1.02 Mev ✓
 - (c) 1.2 Mev
 - (d) 1.00 Mev
- 4-** Binding energy per nucleon is maximum for:
 - (a) Helium
 - (b) Iron ✓
 - (c) Radium
 - (d) Polonium
- 5-** When some dielectric is inserted between the plates of a capacitor, then capacitance:
 - (a) Increased ✓
 - (b) Decreased
 - (c) Zero
 - (d) Infinity
- 6-** Automatic functioning of street light can be done by the use of:
 - (a) Inductor
 - (b) Capacitor
 - (c) Comparator ✓
 - (d) Thermistor
- 7-** Kirchhoff's first rule is a manifestation of law of conservation of:
 - (a) Mass
 - (b) Energy
 - (c) Charge ✓
 - (d) Kinetic energy

- 8- If $R_1 = 10 \text{ k}\Omega$ and $R_2 = 100 \text{ k}\Omega$, then gain of inverting amplifier is:
(a) -11 (b) -10 ✓
(c) 10 (d) 11

9- The half-life of uranium -239 is:
(a) 1620 years (b) 3.8 days
(c) 2.5 days (d) 23.5 minutes ✓

10- The principle of an electric generator is based upon:
(a) Ampere's law (b) Faraday's law ✓
(c) Coulomb's law (d) Kirchhoff's law

11- Coulomb per volt is called:
(a) Ampere (b) Joule
(c) Henry (d) Farad ✓

12- The device which allows only flow of A.C. through it, is:
(a) Capacitor ✓ (b) Inductor
(c) Battery (d) Thermistor

13- Energy stored in the inductor is in the form of:
(a) Electrical energy (b) Magnetic energy ✓
(c) Kinetic energy (d) Chemical energy

14- Very weak magnetic field produced by brain can be detected by:
(a) Compass (b) Metallic needle
(c) Squid ✓ (d) Liquid

15- Work done on a charged particle moving in uniform magnetic field is:
(a) Maximum (b) Zero
(c) Minimum (d) Negative ✓

16- When platinum wire is heated, it changes to cherry red at temperature:
(a) 500°C (b) 900°C ✓
(c) 1100°C (d) 1300°C

17- The value of Rydberg constant is:
(a) $1.0974 \times 10^7 \text{ m}^{-1}$ ✓ (b) $6.02 \times 10^{-34} \text{ m}^{-1}$
(c) $3 \times 10^8 \text{ m}^{-1}$ (d) $1.6 \times 10^{19} \text{ m}^{-1}$